

**Testimony to the House Great Lakes and Environment Committee
on HB 4699 to restrict the use of deca-BDE in certain consumer products
Presented by William B. Weil, MD, Professor Emeritus of Pediatrics and Human
Development, College of Human Medicine, Michigan State University
December 10, 2009**

Thank-you, Madame Chair and Members of the Committee, for this opportunity.

By way of background, I have been a pediatrician for the past 60 years. I did my military duty as a researcher with the Army Chemical Warfare department for two years from 1955 to 1956. In 1968, I established the Department of Pediatrics and Human Development of the new College of Human Medicine at Michigan State University. I served as Chair of that department for 11 years and am now a Professor Emeritus in that department.

Since then, I chaired the national American Academy of Pediatrics Committee on Environmental Health for six years and have done similar work with the Michigan Chapter of the American Academy of Pediatrics. I also serve on the Pesticide Advisory Committee of the Michigan Department of Agriculture and have worked with the Michigan Departments of Education and Community Health.

My involvement with toxic products and their effects on children's health goes back to the days when another chemical fire retardant, PBBs (polybrominated biphenyls) contaminated food products in Michigan in 1973. I was one of the initial investigators into the impacts of PBBs on children.

Deca-BDE, the chemical fire retardant proposed for a partial phaseout, is similar in structure to thyroid hormones, amazingly enough, and to polychlorinated biphenyls (PCBs) – compounds we banned long ago.

Evidence in the scientific literature suggests that children might have higher levels of some flame retarding chemicals than adults. Scientists recently concluded that contaminated dust inhalation and ingestion are likely to be additional important pathways of exposure for children. The tendency of young children to frequently put objects into their mouths further increases their exposure to deca-BDE.

Levels of PBDEs found in people are higher in the United States than in any other country for which there is data and U.S. levels are about 10 to 100 times greater than human tissue levels in Europe. Breast milk levels in the U.S. are also higher than in Europe. PBDE levels in tissue and breast milk appear to be doubling every 2-5 years in North America.

We know that Michiganders are exposed to flame retarding chemicals, and carry them in their bodies. A small sample of five people in Michigan found each one had measurable deca-BDE in their blood. I myself was recently biomonitoring revealing deca and other flame retarding chemicals in my body. Now, I am a bit older..., and my body has already gone through its development, but exposing children to deca-BDE involves much greater potential for harm.

Laboratory animals are important predictors of potential impacts in humans. Exposure to PBDEs (polybrominated diphenyl ethers) – the chemical group to which deca-BDE belongs – has been associated in animal studies with problems with learning, memory, IQ, behavior, delayed puberty and reproductive development, thyroid, immune function, liver, and cancer.

Deca is the only PBDE that has been tested for its capacity to cause cancer. Some evidence of cancer causation was found for rats following exposure to high levels of deca in their diet.

But the effects of deca on neurological development suggest that this is a much more sensitive endpoint – that is, neurological effects occur at far lower levels of exposure. In mice, deca causes persistent hyperactivity after administration of a relatively low dose (6-20 mg/kg) when the test animals are just 3 days old or when administered for several days in a row to newborn mice.

I am particularly concerned about the potential adverse health effects of deca-BDE in young, developing children. We have enough evidence to show that deca-BDE and its breakdown products have the potential to cause harm. That's why the state banned penta and octa-BDE and why we have eliminated the use of PCBs and other compounds with similar chemical compositions. For deca-BDE, affordable, effective alternatives are available and are already widely used. Legislative restrictions on deca-BDE have strong support from health professionals and are a prudent public health measure.

Therefore, I strongly urge the Committee and the full legislature to pass HB 4699 to protect children from needless exposure to this toxic chemical.

I have attached to my written testimony the letter of support for this legislation from the Michigan Chapter of the American Academy of Pediatrics, of which I am a member.

Thank-you very much.

Respectfully submitted,

William B. Weil, MD
Professor Emeritus of Pediatrics and Human Development
College of Human Medicine
Michigan State University
528 East Oakwood Drive
East Lansing, MI 48823
517-351-5615
weilw@msu.edu